

IGNITION SYSTEM IN WINTER BECOMES CRANKY AS A MULE

Trouble Generally Begins in One Cylinder and Stays in That Locality, Some Helpful Hints.

While the modern ignition system of either of the two popular types, battery and magneto, are so generally reliable that ignition trouble is almost a rarity, still, as most car owners will testify, there are occasions when the old evil shows its head, and when it does comes—good night. Moreover, ignition troubles are to a certain extent seasonal. By that I mean that while ignition trouble is not like hard starting, exclusively a product of winter, nevertheless ignition troubles are more frequent in cold or wet weather than in summer, and so we say that this type of mishap has a somewhat seasonal character.

No matter whether the ignition system is magneto or battery, if the car is to enjoy satisfactory and efficient ignition depends on unhampered generation of current, correct interruption of the primary circuit, the free flow of current to the spark plugs and plugs properly adjusted to furnish a hot spark that will cause efficient combustion. In either system we must be sure that all these steps are properly taken care of, although naturally there will be some difference in the attention needed to produce correct functioning in the magneto and the battery.

We shall take up the battery system first, and here naturally the prime care must be to keep the battery properly charged and the cells filled with distilled water. The connections must all be kept clean and bright, for corrosion may be almost as bad as a missing connection. The wires from the battery to the ignition devices must be properly insulated, a broken insulation which permits the wire to make intermittent contact with some of the metal work will cause an exaggerated case of misfiring.

Keep Interrupter Points Clean. The interrupter points in the ignition device must be separated by approximately .015 of an inch when they are fully opened. Also these points must always be kept clean and level. This may be done by the use of a bit of cutlery paper, finer than the finest sandpaper, and the truing up may be done with a jeweler's file.

The high tension wires which connect the distributor with the spark plugs must always make a good contact at both ends and must always be perfectly insulated. The spark plugs must be in condition to function properly, not cracked, nor with dirty points, nor with points too far apart or too close together.

Now we come to applying what we have learned to the running down and elimination of ignition troubles when they actually develop. One peculiarity of ignition trouble is that it usually develops in one particular cylinder and sticks to that one location, but this

is not always so and must not be laid down as an absolute rule, though it may be taken as a fair test to begin on.

Start With Spark Plug. In trying to run down ignition trouble the first step to take is to make sure that a spark is occurring at the plug. To do this remove the cable still attached to the plug on top of the cylinder. Next crank the engine by hand, the switch being turned to battery. If the plug fires well obviously the search must continue.

If the spark is weak it is pretty certain that it is not firing at all under compression. If there is doubt as to which plug is at fault the familiar method of shorting the plug with a hammer or screwdriver is a useful aid. With the engine running short circuit the plug by means of the hammer head or other metal tool, laying the latter against the top of the spark plug and the cylinder.

If there is no change in the firing of the engine, as indicated by the explosion, then you have found the bad cylinder. In engines that have separate inlet and exhaust pipes for each cylinder there is an easier way still. Simply put a few drops of water on each exhaust pipe while the engine is in operation. The exhaust of the misfiring cylinder will be cool, a fact quickly demonstrated by the absence of steam.

Weak Magnets Cause Trouble. Having located the missing cylinder the search now proceeds to find the cause. The first thing to do is to examine the plug, and next trace back the wiring to the ignition device. If a plug is suspected of changing it with another plug known to be firing properly. Gum or dirt found on the interrupter points should not be removed with a drop of kerosene. If the points are uneven dress them down with a fine file. If they are too wide or too close adjust them.

In four unit coil ignition any maladjustment of the coil interrupter is likely to produce misfiring. In magneto ignition the interrupter mechanism is practically the same as in the battery and the same instructions apply. The magneto system, however, must be watched for weakened magnets and when this condition occurs the magnets must be resaturated. Weak magnets will cause misfiring, particularly at low speeds. Coil connections should be watched; in fact, the prevalent ignition trouble is due to loose or dirty connections.

In cold or even rainy weather our present grades of fuel become so heavy that it is difficult enough to fire them even under the most favorable circumstances. If the ignition system is not functioning at full efficiency, delivering a hot spark correctly timed, the trouble is right up to the mark in every way during the cold season.

LAFAYETTE CAR DISPLAY UNIQUE

Eight-Cylinder Car Shows New Features Without Complications.

New York, Jan. 3.—Because D. McCall White is famous as an engine designer both in this country and Europe, interest in the new Lafayette car, exhibited for its first time yesterday in the main lobby of the Hotel Commodore, and built by the Indianapolis company of which Charles W. Nash is president, naturally centers in the mechanism that is concealed under the long, tapering bonnet.

The eight-cylinder engine, which reflects the influence of aircraft design, is of the high-speed type, with a maximum speed of 1,000 revolutions per minute and an actual rating in excess of 90 horsepower. The bore and stroke measure 3 1/2 by 5 1/2 inches, and the cylinders, which have detachable heads and internally machined combustion chambers, are cast in two blocks of four each.

The engine design differs from the orthodox eight-cylinder type not only in power, speed and lightness, but in simplicity, advanced ideas having eliminated many parts hitherto considered necessary by eight-cylinder manufacturers. It is generally regarded as "something new in eight."

Such an advance in eight-cylinder design naturally comes from Mr. White, who designed the first eight-cylinder high-speed engine in this country.

The valves are set at an angle of 9 degrees with the cylinders, which makes for higher efficiency in the combustion chambers, and the 108-degree angle of the valves results in easier adjustment than in an engine of the usual 90-degree angle.

Durability is another salient characteristic of the Lafayette engine. All bearings are usually large for longer life and easier adjustment, while the camshaft has sixteen cams instead of the conventional eight so that there is only half as much wear on each cam and with the very advantageous result of identical valve action on both sides of the engine.

A notable feature of the lubrication system of the Lafayette is that the oil not only lubricates the bearings but cools them as well, due to the hollow construction of the crankshaft. The engine is designed to run at minimum heat for highest thermal efficiency, with the result that the oil is kept at the lowest possible temperature.

State Gasoline.

After it has stood for several days, even in a tight tank, gasoline will become dead and slow to ignite. This is partly due to evaporation and partly to chemical changes that take place.

trouble is somewhat seasonal and this is why extra care should be exercised to keep the ignition system right up to the mark in every way during the cold season.

SKINKER-PALMER COMPANY NEW DISTRIBUTERS FOR FALLS TIRES



Formerly distributors for Dreadnought Tires, The Skinker-Palmer Company, 1408 Fourteenth Street Northwest, has taken the agency for Falls Tires and Tubes and will act as distributors through Maryland, Virginia and the District of Columbia, featuring the famous "Falls Cord" and "Evergreen Tubes."

70 VARIETIES OF TRUCKS DISPLAYED AT N. Y. ARMORY

Twentieth Annual Exhibit Brings Thousands Of Visitors to Huge Building—Motion Pictures of Trucks Are Shown.

New York, Jan. 3.—When the public was admitted to the Twentieth Annual Motor Truck Show, this afternoon, it saw the greatest collection of commercial motor vehicles ever gathered together in the largest building devoted to display of the products of any single industry.

For most of the visitors it was their first visit to the Eighth Coast Artillery Armory at Kingsbridge Road and Jerome avenue. The seventy-odd different makes of trucks, and more than seventy-five of accessories of every kind laid out on a linoleum-covered concrete floor, 300 by 600 feet without a post to obstruct the view, under a bunting-hung ceiling 110 feet high, made an impressive spectacle. Simultaneously with the opening of the Truck Show the passenger car show opened in Grand Central Palace.

Never before have spectators at an automobile show been able to see one-quarter as many as the number of trucks displayed here without going from building to building or floor to floor.

In addition to the great variety of trucks, from the smallest and nimblest-looking, to big and powerful fellows that seem capable of dragging

Brooklyn bridge from its piers, there were endless different kinds of accessories and auxiliaries.

The doors opened at 2 o'clock and at 3 o'clock motion pictures were shown on the main floor of the huge show-room. Among the scenes thrown on the film was that of a baby tank in action at the French front which interested the spectators intensely.

The formal inaugural session of the Highway Transport Conference of National Authorities on Trucks and Transportation was held in the evening, when speakers of note gave their opinions of the great significance to the nation of motor trucks and highway transportation.

Truck experts, owners and operators who were present were greatly interested in observing that no marked departure from standard engineering practices were to be seen in the models exhibited.

One of these authorities had said that the show was not an argument of an advertisement for truck transportation; such an appeal is no longer necessary. As a basic factor in twentieth century industry and transportation the truck is the backbone of the nation. The passenger car shows is S. A. Miles. Following is a list of the maker of trucks that will be exhibited: Acme, Acme, Acme, Armleder, Atterbury, Autocar, Bethlehem, Brockway, Clydesdale, Commerce, Corbitt, C. T. Day-Elder, DeLafayette, Denby, Diamond T., Dodge Brothers, Dorris, Federal, F. D. Garford, Grinnell-Bernstein, Graham, Haffman, Hirsch, International, Jackson, Jumbo, Kelly, Kissel, Koehler, Macfar, Master, Maxwell, Nash, Oldsmobile, Onida, Packard, Paige, Pierce-Arrow, Rainier, Republic, Rowe, Sandow, Sanford, Schacht, Schwartz, Seiden, Standard, Sterling, Stedark, Sullivan, Tower, Trailmobile, Transport, Three Point, Triangle, Union, Velle, Vim, Walker, Walter, Ward, Ward LaFrance, Wilson, Winther, Keystone.

Ford Manifolds.

Trouble often results from carelessness in replacing the manifolds of the Ford car. This occurs when the small gasket covers do not make airtight joints. It is well to fasten these gaskets in the holes in the manifold by using small pieces of paper to wedge them in and then adjusting the manifold to the holes in the cylinder. This plan obviates ropping them or setting them out of true.

Tube Valve.

Frequent removal of the core of an air valve will generally impair the holding ability of the small rubber washer. A small screw having a groove lengthwise on one side and threads to fit the inner part of the valve may be run down so as to press on the core and keep the valve open until the air can escape, without its being necessary to remove the core.

WARNING ISSUED RAIL TIE-UP DUE

Shippers Told Freight Rates Are Sure to Advance With New Regime.

Congestion of freight transportation facilities has already assumed a very serious aspect and this winter will experience difficulties that will surpass those of the winter of 1917, according to R. E. Fulton, vice president of the International Motor Company. Mr. Fulton warns shippers to prepare now to meet the emergency.

"During the congestion of 1917, the motor trucks in use hauled 1,200,000,000 tons of goods," he says, "and this year with production greatly increased and the railroads crippled by the coal shortage, the demands upon the trucks will be many times greater."

"The inability of shippers of goods to get satisfactory service from the railroads has already caused many of them to use motor trucks, and if the present demand keeps up, the production of high grade trucks to meet the demand will be impossible. It is significant to note that the sales of Mack trucks last month increased 53 per cent over the month previous, and that this heavy demand is increasing steadily."

"This certainty of increased railroad rates as well as the inadequacy of the railroads to give the kind of service that is being demanded, points to an oversold condition in the high grade truck market before very long. Business men in order to be sure that their freight will be handled should place their orders for sufficient motor transportation now, while deliveries are obtainable."

"The increased demand for trucks from foreign countries will also have a big influence on conditions. Export sales of Mack trucks last month were the biggest yet, many going to Peru, Cuba, Norway, Argentina, Holland and Mexico."

PACKING TRUCKS REQUIRES CARE

Hit-or-miss Plan in Preparing for Freight Hauls Wasteful, He Says.

"To further increase the freight-carrying possibilities of the motor truck, scientific packing is receiving the attention of experts," says W. L. Kissel, secretary and treasurer of the Kissel Motor Car Company.

"This has particular reference to those trucks employed in the transportation of boxed goods, packages and similar commodities. It has been found that there is a right way and a wrong way in loading a truck with merchandise of this character."

"Packing experts who have given this study have found that by packing boxes in certain ways in the truck they can save at least one-tenth of the truck body space."

"Along this line, scientific packing saved railway space on both sides of the water during the war. Up to that time packing freight cars were more or less of a 'hit-or-miss' method and no study was given to the best way certain sized packages would fit into a given space, utilizing every inch of the floor space."

"It has been found that by studying the floor space of a truck body, the owner by careful and scientific packing can increase his load without making it either top-heavy or overweight."

"On the basis of the 800,000 trucks in use today it doesn't take very much figuring to see what an immense amount of saving scientific loading of motor trucks will accomplish."

Army Officers Speakers At National Auto Show

Col. F. H. Pope, last assistant director, Motor Transport Corps, A. E. F., delivered a talk illustrated with moving pictures, and Col. Brainard and Taylor, Motor Transport Corps Eastern department, spoke upon the relation of military preparedness to commercial truck manufacturing.

There are several causes of oil collecting on the points of the spark plugs. One of these is the use of too heavy a lubricating oil. If this trouble is persistent try mixing a pint of kerosene with each gallon of oil. This may cure the trouble.

Ford Misfiring.

A persistent and irregular misfiring in a Ford car will sometimes result from the current jumping across from the connections which project through the wooden dash under the hood to grease and dirt near by. Thick hard rubber washers will cure the trouble.

Aids to Farm Life Comfort Feature Implement Exhibit

New York, Jan. 3.—With more than 90 per cent of its entire 50,000 square feet of floor space occupied and most of the exhibits already installed the permanent International Tractor, Trailer and Farm Implement Exchange on the seventh floor of Grand Central Palace presents much of interest to automobile show visitors and exhibitors.

The exchange is one of the permanent divisions of the International Exposition of Industries operated by the Merchants and Manufacturers Exchange of New York. Everything in the agricultural machinery field is offered, numerous makes of tractors being shown together with tractors and other power-driven machinery.

Among the manufacturers whose products are included in this permanent comprehensive display are such companies as Advance-Rumely, Avery Company, J. I. Case Plow Works, Chicago Steel Post, Craine Sile, Detroit Tractor, General Ordnance, Holt, International Harvester, Northway Tractor, Ohio Tractor.

Automotive vehicles are doing much to make farm life more attractive. Passenger cars and motor trucks already have established places in rural communities. Farm tractors open new fields of usefulness. Power-driven agricultural machinery, tractors and trailers are being made in this country in great numbers and in a diversity of forms to meet every requirement. The visitor at the International Tractor, Trailer and Farm Implement Exchange may study and compare the best of them.

The International Tractor, Trailer and Farm Implement Exchange is in charge of W. W. Mauby, a veteran in the tractor and farm implement field. Two other permanent branches of the International Exposition of Industries are also open for business—the International Machinery Exposition, including factory appliances, power plant equipment and mining machinery sections, and the International Hardware, Housefurnishings and Toy Exchange.

Among the other permanent exhibitions in process of organization is one devoted to foreign raw materials and raw products required by American importers.

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37x5 1/2	27.10	33.70	33.70	5.50	3.70	38.15

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W. J. Kruder Stationery Co., 905 G St. N. W.
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Security Auto Supply Co., 11th and Eye Sts. N. W.
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Congress Hall Hotel, News Stand.
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Hohberger's, 2304 Fourteenth St. N. W.
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L. E. Sullivan Tire Co. No. 2, 2313 Fourteenth St. N. W.
Washington Auto Supply Co., 1227 New York Ave. N. W.
L. M. Haskins, 921 Ninth St. N. W.
Adams News Agency, 902 G St. N. W.
Dan Courtney's Cigar Store, No. 8 G St. N. W.
The Gilbert Garage, 2907 18th St. N. W.
Federal Auto Supply, 477 Pennsylvania avenue.
Capitol Tire Co., 650 Pennsylvania S. E.
Clarendon Garage, Clarendon, Va.
Boyer's Pharmacy, Clarendon, Va.
Abera Bros., 36th and M Sts. Terminal.
E. E. Cornwell, 123 B St. S. E.
Richard E. Miller, 527 8th St. S. E.
Ebbitt Hotel News Stand, 14th and F Sts. N. W.
D. C. Auto Supply Co., 14th and F Sts. N. W.
J. E. Krause, 605 G St. N. W.
Renner's, 590 13th St. N. W.
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THE WASHINGTON HERALD

Scrapping on the Auto Editor's Cuff

Milton Spiro has a record, a wonderful record, he has never in his score of some years let the infant year and him rational. Last Wednesday he looked up the Government Tire and Rubber Company, caught the Congressional Limited for 11' of N. Y. and faded from our midst. It is rumored that he has a secret dungeon where never a drop of wood alcohol has been known so don't look for him in the obituaries. He'll be back—we hope he will—he left here with a promise.

Yesterday the National Automobile Show opened in New York with a grand splash. Automobiles, automobiles and then some more automobiles peep at you from their booths in one grand array of glittering splendor. Nearly every automobile man in Washington was there for the opening. And Oh man! what an opening. In fact it was such a wonderful opening that the Great Catastrophe of last July was totally forgotten along with some other things.

Did anyone hear anyone saying never to touch another drop last Thursday?

Mr. Robert Garland writes in "The Maryland Motorist" for December on the beauties of motoring at night. He says in part, "Half the joy of running over to Washington to the theater is the ride home afterwards with the chilly stars blinking overhead and the searchlights stabbing the curtains of the night. After two and a half hours in a stuffy playhouse the thought of a run homeward is like a mental stimulant. The friend beside you," continues Mr. Garland, "scarcely speaks at all; if talk comes naturally it is of sweet, infrequent things such as friendship, love and death and matters the least of the world of day. One's friends grow very near when the motor sings contentedly and the stars look down and the road unwinds like a ribbon beneath the whirling wheels."

That's a driving home from Washington. Now let some "Random Washington Motorist" get up and tell us how it used to be to drive home from Baltimore. How the beautiful road, listening in the moonlight, used to unwind like a pretzel. How, on the trip from Baltimore, "The friend beside you" never spoke at all, but lay there blowing little bubbles in the air. Let him tell us the same "Driving bubble" who hopped hurriedly across the road in front of the "Washington to Baltimore motorist" would hop nonchalantly in front of the "Baltimore to Washington" profligate, disguised as a lecherous cherub, turning your hair into piano wire and stopping your heartbeat, and how "The curves, the trees, the bridges" took on unexpected and horrible shapes in the searchlight's glare, the commonplace becoming terribly grotesque; the colored lights of the railways looking like the great multicolored eyes of some nocturnal monster of the ether regions. Let him get up and tell how he used to pray for New Years day to come every time he made the trip so's he could resolve never go to it again.

The trail from Washington to Baltimore may sparkle and scintillate with all the ravishing beauties of the "Queen of Night" but from Baltimore to Washington—Oh Boy! Was like a streaking, roaring slide straight to the bottom of the "Prison of Darkness" waiting at the other end with a rolling pin.

It's all in the direction, men, it's all in the direction.